

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

FILING DATE: March 2, 2001

APPLICANT: Wagner et al.

GROUP ART UNIT: unknown 1635

EXAMINER: unknown

Sheet

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U.S. PATENT DOCUMENTS

Examiner's Initials#	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YYYY
		Number	Kind Code		
DL	A1	5,567,604		Rando et al.	10-22-1996
	A2	5,663,153		Hutcherson et al.	09-02-1997
	A3	5,723,335		Hutcherson et al.	03-03-1998
	A4	6,013,639		Peyman et al.	01-11-2000
	A5	6,121,434		Peyman et al.	09-19-2000
	A6	6,194,388	B1	Krieg et al.	02-27-2001
	A7	6,207,646	B1	Krieg et al.	03-27-2001
	A8	6,214,806	B1	Krieg et al.	04-10-2001
	A9	6,218,371	B1	Krieg et al.	04-17-2001
BN	A10	6,239,116	B1	Krieg et al.	05-29-2001

FOREIGN PATENT DOCUMENTS

Examiner's Initials#	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document (not necessary)	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/ Country	Number	Kind Code			
DL	B1	WIPO	WO94/29469	A2		12-22-1994	
	B2	WIPO	WO96/24380	A1		08-15-1996	
	B3	WIPO	WO97/00957	A1		01-09-1997	
	B4	WIPO	WO98/29430	A1		07-09-1998	
	B5	WIPO	WO98/32462	A1		07-30-1998	
	B6	WIPO	WO98/37919	A1		09-03-1998	
	B7	WIPO	WO98/40100	A1		09-17-1998	
	B8	WIPO	WO98/52581	A1		11-26-1998	
	B9	WIPO	WO99/51259	A2		10-14-1999	
	B10	WIPO	WO99/56755	A1		11-11-1999	
	B11	WIPO	WO99/58118	A2		11-18-1999	
	B12	WIPO	WO99/61056	A2		12-02-1999	
	B13	WIPO	WO00/06588	A1		02-10-2000	
	B14	WIPO	WO00/14217	A2		03-16-2000	
	B15	WIPO	WO00/67023	A1		11-09-2000	

OTHER ART - NON PATENT LITERATURE DOCUMENTS

Examiner's Initials#	Cite No	Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)
DL	C1	ANDERSON WF, Human gene therapy. <i>Science</i> . 1992 May 8;256(5058):808-13.	
	C2	BALLAS Z et al., Induction of NK activity in murine and human cells by CpG motifs in oligodeoxynucleotides and bacterial DNA. <i>J Immunol</i> . 1996 Sep 1;157(5):1840-5.	
BN	C3	BENIMETSKAYA L et al., Formation of a G-tetrad and higher order structures correlates with biological activity of the RelA (NF-kappaB p65) 'antisense' oligodeoxynucleotide. <i>Nucleic Acids Res</i> . 1997 Jul 1;25(13):2648-56.	

B. Wagner

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Bh	C4	BENIMETSKAYA L et al., Mac-1 (CD11b/CD18) is an oligodeoxynucleotide-binding protein. <i>Nat Med.</i> 1997 Apr;3(4) 414-20.
	C5	BISHOP JS et al., Intramolecular G-quartet motifs confer nuclease resistance to a potent anti-HIV oligonucleotide. <i>J Biol Chem.</i> 1996 Mar 8;271(10):5698-703.
	C6	BURGESS TL et al., The antiproliferative activity of c-myc and c-myc antisense oligonucleotides in smooth muscle cells is caused by a nonantisense mechanism. <i>Proc Natl Acad Sci U S A.</i> 1995 Apr 25;92(9):4051-5.
	C7	CHACE JH et al., Bacterial DNA-induced NK cell IFN-gamma production is dependent on macrophage secretion of IL-12. <i>Clin Immunol Immunopathol.</i> 1997 Aug;84(2) 185-93.
	C8	COWDERY JS et al., Bacterial DNA induces NK cells to produce IFN-gamma in vivo and increases the toxicity of lipopolysaccharides. <i>J Immunol.</i> 1996 Jun 15;156(12):4570-5.
	C9	EIGLER A et al., Taming TNF: strategies to restrain this proinflammatory cytokine. <i>Immunol Today.</i> 1997 Oct;18(10):487-92.
	C10	FEARON DT et al., The instructive role of innate immunity in the acquired immune response. <i>Science.</i> 1996 Apr 5;272(5258) 50-3.
	C11	FINNAN JL et al., Development in the phosphite-triester method of synthesis of oligonucleotides. <i>Nucleic Acids Symp Ser.</i> 1980;(7) 133-45.
	C12	GIORDANO FJ et al., Intracoronary gene transfer of fibroblast growth factor-5 increases blood flow and contractile function in an ischemic region of the heart. <i>Nat Med.</i> 1996 May;2(5):534-9.
	C13	HALPERN MD et al., Bacterial DNA induces murine interferon-gamma production by stimulation of interleukin-12 and tumor necrosis factor-alpha. <i>Cell Immunol.</i> 1996 Jan 10;167(1) 72-8.
	C14	HALPERN MD et al., In vitro inhibition of murine IFN gamma production by phosphorothioate deoxyguanosine oligomers. <i>Immunopharmacology.</i> 1995 Feb;29(1):47-52.
	C15	HERTL M et al., Inhibition of interferon-gamma-induced intercellular adhesion molecule-1 expression on human keratinocytes by phosphorothioate antisense oligodeoxynucleotides is the consequence of antisense-specific and antisense-non-specific effects. <i>J Invest Dermatol.</i> 1995 May;104(5):813-8.
	C16	ISNER JM et al., Clinical evidence of angiogenesis after arterial gene transfer of phVEGF165 in patient with ischaemic limb. <i>Lancet.</i> 1996 Aug 10;348(9024) 370-4.
	C17	KIMURA Y et al., Binding of oligoguanylate to scavenger receptors is required for oligonucleotides to augment NK cell activity and induce IFN. <i>J Biochem (Tokyo).</i> 1994 Nov;116(5) 991-4.
	C18	KRIEG AM et al., CpG motifs in bacterial DNA trigger direct B-cell activation. <i>Nature.</i> 1995 Apr 6;374(6522):546-9.
	C19	KRIEG AM et al., Sequence motifs in adenoviral DNA block immune activation by stimulatory CpG motifs. <i>Proc Natl Acad Sci U S A.</i> 1998 Oct 13;95(21):12631-6.
	C20	KRIEG AM et al., The role of CpG dinucleotides in DNA vaccines. <i>Trends Microbiol.</i> 1998 Jan;6(1):23-7.
	C21	KRIEG AM. Leukocyte stimulation by oligodeoxynucleotides. In: Stein CA & Krieg AM, eds., <i>Applied Antisense Oligonucleotide Technology</i> , Wiley-Liss, New York, 1998, Chapter 24, pp. 431-48.
	C22	KRIEGER M et al., Structures and functions of multiligand lipoprotein receptors: macrophage scavenger receptors and LDL receptor-related protein (LRP). <i>Annu Rev Biochem.</i> 1994;63:601-37.
	C23	LANG R et al., Guanosine-rich oligodeoxynucleotides induce proliferation of macrophage progenitors in cultures of murine bone marrow cells. <i>Eur J Immunol.</i> 1999 Nov;29(11):3496-506.
	C24	LEE PP et al., An oligonucleotide blocks interferon-gamma signal transduction. <i>Transplantation.</i> 1996 Nov 15;62(9):1297-301.
Bh	C25	LIANG H et al., Activation of human B cells by phosphorothioate oligodeoxynucleotides. <i>J Clin Invest.</i> 1996 Sep 1;98(5):1119-29.

FORM PTO-1449/A and B (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT JUN 08 2001 Sheet 3 of 4	APPLICATION NO.: 09 786,436	ATTY. DOCKET NO.: C1041 7010
	FILING DATE: March 2, 2001	
	APPLICANT: Wagner et al.	
	GROUP ART UNIT: <u>unknown</u> 1635	EXAMINER: unknown

PV	C26	LIPFORD GB et al., Immunostimulatory DNA: sequence-dependent production of potentially harmful or useful cytokines. <i>Eur J Immunol.</i> 1997 Dec;27(12):3420-6.
	C27	MACAYA RF et al., Thrombin-binding DNA aptamer forms a unimolecular quadruplex structure in solution. <i>Proc Natl Acad Sci U S A.</i> 1993 Apr 15;90(8):3745-9.
	C28	MACFARLANE DE et al., Unmethylated CpG-containing oligodeoxynucleotides inhibit apoptosis in WEHI 231 B lymphocytes induced by several agents: evidence for blockade of apoptosis at a distal signalling step. <i>Immunology.</i> 1997 Aug;91(4):586-93.
	C29	MEDZHITOV R et al., Innate immunity impact on the adaptive immune response. <i>Curr Opin Immunol.</i> 1997 Feb;9(1):4-9.
	C30	MESSINA JP et al., The influence of DNA structure on the in vitro stimulation of murine lymphocytes by natural and synthetic polynucleotide antigens. <i>Cell Immunol.</i> 1993 Mar;147(1):148-57.
	C31	MOSMANN TR et al., The expanding universe of T-cell subsets: Th1, Th2 and more. <i>Immunol Today.</i> 1996 Mar;17(3):138-46.
	C32	MUHLHAUSER J et al., VEGF165 expressed by a replication-deficient recombinant adenovirus vector induces angiogenesis in vivo. <i>Circ Res.</i> 1995 Dec;77(6):1077-86.
	C33	PAUL WE, Pleiotropy and redundancy: T cell-derived lymphokines in the immune response. <i>Cell.</i> 1989 May 19;57(4):521-4.
	C34	PISETSKY DS et al., Stimulation of in vitro proliferation of murine lymphocytes by synthetic oligodeoxynucleotides. <i>Mol Biol Rep.</i> 1993 Oct;18(3):217-21.
	C35	PISETSKY DS, The influence of base sequence on the immunostimulatory properties of DNA. <i>Immunol Res.</i> 1999;19(1):35-46.
	C36	RAMANATHAN M et al., Characterization of the oligodeoxynucleotide-mediated inhibition of interferon-gamma-induced major histocompatibility complex class I and intercellular adhesion molecule-1. <i>J Biol Chem.</i> 1994 Oct 7;269(40):24564-74.
	C37	RAMANATHAN M et al., Inhibition of interferon-gamma-induced major histocompatibility complex class I expression by certain oligodeoxynucleotides. <i>Transplantation.</i> 1994 Feb 27;57(4):612-5.
	C38	ROMAN M et al., Immunostimulatory DNA sequences function as T helper-1-promoting adjuvants. <i>Nat Med.</i> 1997 Aug;3(8):849-54.
	C39	SATO Y et al., Immunostimulatory DNA sequences necessary for effective intradermal gene immunization. <i>Science.</i> 1996 Jul 19;273(5273):352-4.
	C40	SCHAPER W et al., Molecular mechanisms of coronary collateral vessel growth. <i>Circ Res.</i> 1996 Nov;79(5):911-9.
	C41	SCHAPER W et al., Therapeutic targets in cardiovascular disorders. <i>Curr Opin Biotechnol.</i> 1996 Dec;7(6):635-40.
	C42	SPARWASSER T et al., Bacterial DNA and immunostimulatory CpG oligonucleotides trigger maturation and activation of murine dendritic cells. <i>Eur J Immunol.</i> 1998 Jun;28(6):2045-54.
	C43	SPARWASSER T et al., Macrophages sense pathogens via DNA motifs: induction of tumor necrosis factor-alpha-mediated shock. <i>Eur J Immunol.</i> 1997 Jul;27(7):1671-9.
	C44	SPARWASSER T et al., Bacterial DNA causes septic shock. <i>Nature.</i> 1997 Mar 27;386(6623):336-7.
	C45	STACEY KJ et al., Macrophages ingest and are activated by bacterial DNA. <i>J Immunol.</i> 1996 Sep 1;157(5):2116-22.
	C46	TREMBLEAU S et al., The role of IL-12 in the induction of organ-specific autoimmune diseases. <i>Immunol Today.</i> 1995 Aug;16(8):383-6.
	C47	WANG Q et al., Second-generation adenovirus vectors. <i>Nat Med.</i> 1996 Jun;2(6):714-6.
PV	C48	WLOCH MK et al., The influence of DNA sequence on the immunostimulatory properties of plasmid DNA vectors. <i>Hum Gene Ther.</i> 1998 Jul 1;9(10):1439-47.

FORM PTO-1449/A and B (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT Sheet JUN 08 2001 of 4	APPLICATION NO.: 09-786,436	ATTY. DOCKET NO.: C1041 7010
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PV	C49	WYATT JR et al., Combinatorially selected guanosine-quartet structure is a potent inhibitor of human immunodeficiency virus envelope-mediated cell fusion. <i>Proc Natl Acad Sci U S A.</i> 1994 Feb 15;91(4):1356-60.		
	C50	YAKUBOV LA et al., Mechanism of oligonucleotide uptake by cells: involvement of specific receptors? <i>Proc Natl Acad Sci U S A.</i> 1989 Sep;86(17):6454-8.		
	C51	YAMAMOTO S et al., In vitro augmentation of natural killer cell activity and production of interferon-alpha/beta and -gamma with deoxyribonucleic acid fraction from Mycobacterium bovis BCG. <i>Jpn J Cancer Res.</i> 1988 Jul;79(7):866-73.		
PV	C52	YASWEN P et al., Effects of sequence of thioated oligonucleotides on cultured human mammary epithelial cells. <i>Antisense Res Dev.</i> 1993 Spring;3(1):67-77.		

EXAMINER <i>B. M. J. Hena</i>	DATE CONSIDERED 3/7/07
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#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

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OTHER ART — NON PATENT LITERATURE DOCUMENTS

Examiner's Initials#	Cite No	Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)
PW	C53	DAPIC V et al., Antiproliferative activity of G-quartet forming oligonucleotides with backbone sugar modifications. <i>Proc AACR</i> . 2001 Mar;42; published online 2001 Feb 27 (ABSTRACT).	
	C54	GOODMAN MG, Mechanism of synergy between T cell signals and C8-substituted guanine nucleosides in humoral immunity: B lymphotropic cytokines induce responsiveness to 8- mercaptoguanosine. <i>J Immunol</i> . 1986 May 1;136(9):3335-40.	
	C55	KATAOKA T et al., Antitumor activity of synthetic oligonucleotides with sequences from cDNA encoding proteins of Mycobacterium bovis BCG. <i>Jpn J Cancer Res</i> . 1992 Mar;83(3):244-7.	
	C56	KRIEG AM et al., Oligodeoxynucleotide modifications determine the magnitude of B cell stimulation by CpG motifs. <i>Antisense Nucleic Acid Drug Dev</i> . 1996 Summer;6(2):133-9.	
	C57	KRIEG AM et al., Phosphorothioate oligodeoxynucleotides: antisense or anti-protein? <i>Antisense Res Dev</i> . 1995 Winter;5(4):241.	
	C58	KRIEG AM, An innate immune defense mechanism based on the recognition of CpG motifs in microbial DNA. <i>J Lab Clin Med</i> . 1996 Aug;128(2):128-33.	
	C59	McINTYRE KW et al., A sense phosphorothioate oligonucleotide directed to the initiation codon of transcription factor NF-kappa B p65 causes sequence-specific immune stimulation. <i>Antisense Res Dev</i> . 1993 Winter;3(4):309-22.	
	C60	MESSINA JP et al., Stimulation of in vitro murine lymphocyte proliferation by bacterial DNA. <i>J Immunol</i> . 1991 Sep 15;147(6):1759-64.	
	C61	SUN S et al., Mitogenicity of DNA from different organisms for murine B cells. <i>J Immunol</i> . 1997 Oct 1;159(7):3119-25.	
PW	C62	TOKUNAGA T et al., Synthetic oligonucleotides with particular base sequences from the cDNA encoding proteins of Mycobacterium bovis BCG induce interferons and activate natural killer cells. <i>Microbiol Immunol</i> . 1992;36(1):55-66.	

EXAMINER <i>P. Wagner</i>	DATE CONSIDERED 3/7/07
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FORM 1-10-1442 A and B (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT Sheet <u>2</u> of <u>2</u>	APPLICATION NO.: 09/786,436	ATTY. DOCKET NO.: C1041 7010
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